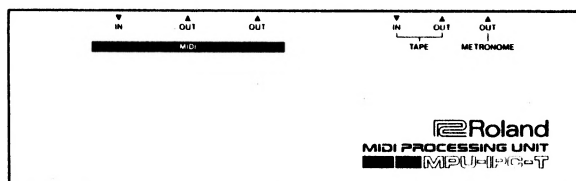




MIDI PROCESSING UNIT

MPU-IPC-T

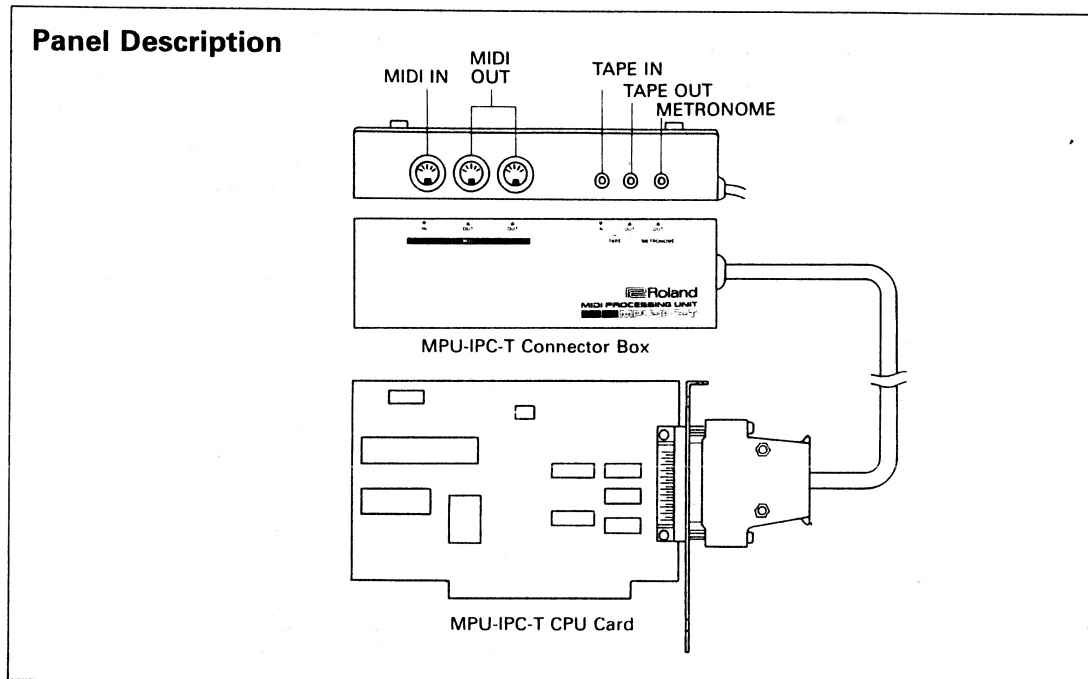
The Roland MPU-IPC-T features the functions of the MIDI Processing Unit MPU-401 plus the interface with an IBM's home computer. No need to say, the software such as commands and data format are exactly the same as the MPU-401. Please read the MPU-401's Technical Reference Manual:



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Panel Description



■ MIDI and MPU-IPC-T

There are various ways of producing music by using computers. For example, a computer may play music data with its own sound source, and a robot may play the keyboard instead of a man. The most common method of creating computer music, however, is playing the electronic musical instruments featuring MIDI by a host computer. MIDI (Musical Instruments Digital Interface) is an international standard for digitally communicating musical information (e.g. pressing keys, using bender, etc.).

MIDI Processing Unit MPU-IPC-T is an interface for a computer and MIDI instruments (sound source). The signals used by computers and MIDI devices are both digital but totally different languages like English and Japanese. The MPU-IPC-T is a micro computer that works as an interpreter of a computer and MIDI sound modules, allowing the host computer to concentrate specifically on the music.

Apart from the function as an interpreter, the MPU-IPC-T features the following functions.

a. MIDI Clock Output

The MPU-IPC-T sends out MIDI clock for synchronization with a rhythm machine through the MIDI OUT Connector.

b. Tape Sync Function

For multitrack recording, the TAPE IN and OUT Connectors can be used to synchronize the first recorded sound with the later recorded one.

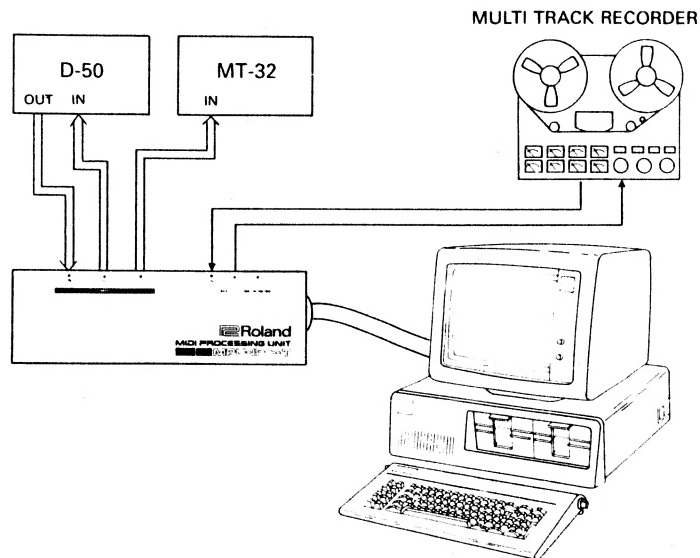
c. Metronome Function

Metronome sound can be obtained in the tempo and time set with the computer. This is extremely useful for recording the music played on the keyboard into the computer. If you find the metronome sound too small, connect a monitor amplifier to the Metronome Out Jack.

NOTE

The function of the MPU-IPC-T available differs depending on the software used. Please read the instructions of each software. Also, for technical details of the MPU-IPC-T, read the 401 Technical Reference Manual (optional).

MPU System Setup Example

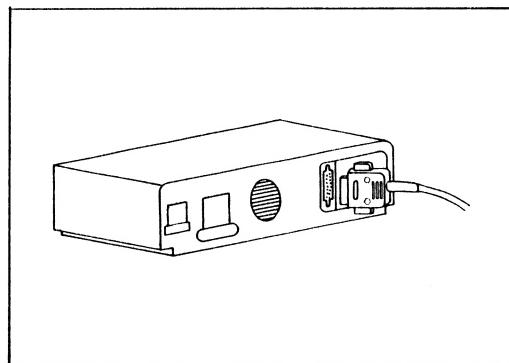
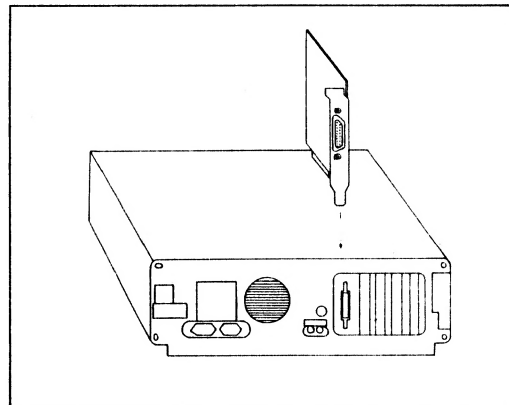


■ Setup

The MPU-IPC-T is compatible with the following computers.

IBM PC (5150)
IBM XT (5160)
IBM AT (5170)

1. Make sure that the computer is turned off.
2. Remove the top cover and securely attach the Interface Card to the Expansion Slot.
 - See the user's manual of the computer.
 - Be sure to tighten the screws at the upper part of the connector board of the CPU Card.
3. Connect the cable of the Connector Box to the CPU Card you have attached to the computer. Here, be sure to tighten the screws on both ends of the connector. Here, be sure to tighten the screws on both ends of the connector.



*IBM PC and IBM XT AT are trademarks of International Business Machines Corporation.

■ MPU-IPC-T's hardware

1. Connection

The MPU-IPC-T and the host computer (IBM's home computer) are connected through the Expansion Slot on the computer and the following Slot Bus Signals.

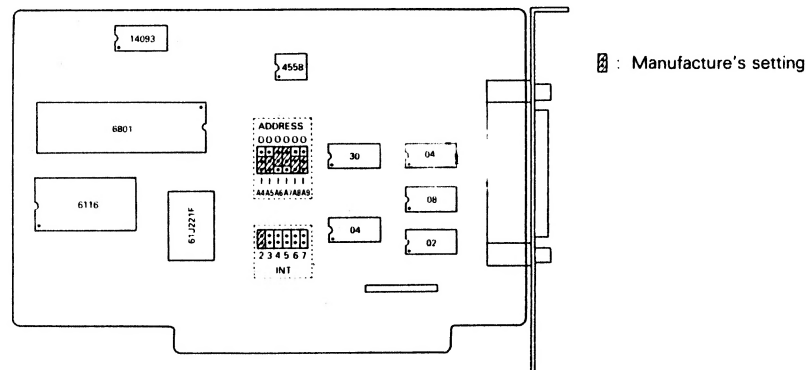
Pin Connections					
Signal	Pin #	Direction	Signal	P#	Direction
D0	A9	I/O	A0	A31	I
D1	A8	I/O	A1	A30	I
D2	A7	I/O	A2	A29	I
D3	A6	I/O	A4	A27	I
D4	A5	I/O	A5	A26	I
D5	A4	I/O	A6	A25	I
D6	A3	I/O	A7	A24	I
D7	A2	I/O	A8	A23	I
IRQ2	B4	O	A9	A22	I
IRQ3	B25	O	IOR*	B14	I
IRQ4	B24	O	IOW*	B13	I
IRQ5	B23	O	AEN*	A11	I
IRQ6	B22	O	RESET DRV	B2	I
IRQ7	B21	O	GND	B1,B10,B31	I
+5vdc	B3,B29	I			

2. I/O Port Address and Insertion Line

The MPU-IPC-T's I/O port addresses and insertion line are set at the manufacture as shown below.

Data	Port : \$330	Status	Port : \$331
Command Port : \$331		Interrupt	Line : IRQ2(PC,XT) IRQ9(AT)

The above settings can be changed by using the Short Plugs on the Jumper Switches.



■ Specifications

INPUT TERMINAL:

MIDI IN	1
MIDI OUT	2
TAPE IN	1
TAPE OUT	1
METRONOME OUT	1
D-Sub CONNECTOR (25 pin)	1
CARDEDGE CONNECTOR	1
(Type of the IBM-PC 62 pin)	

Dimensions:

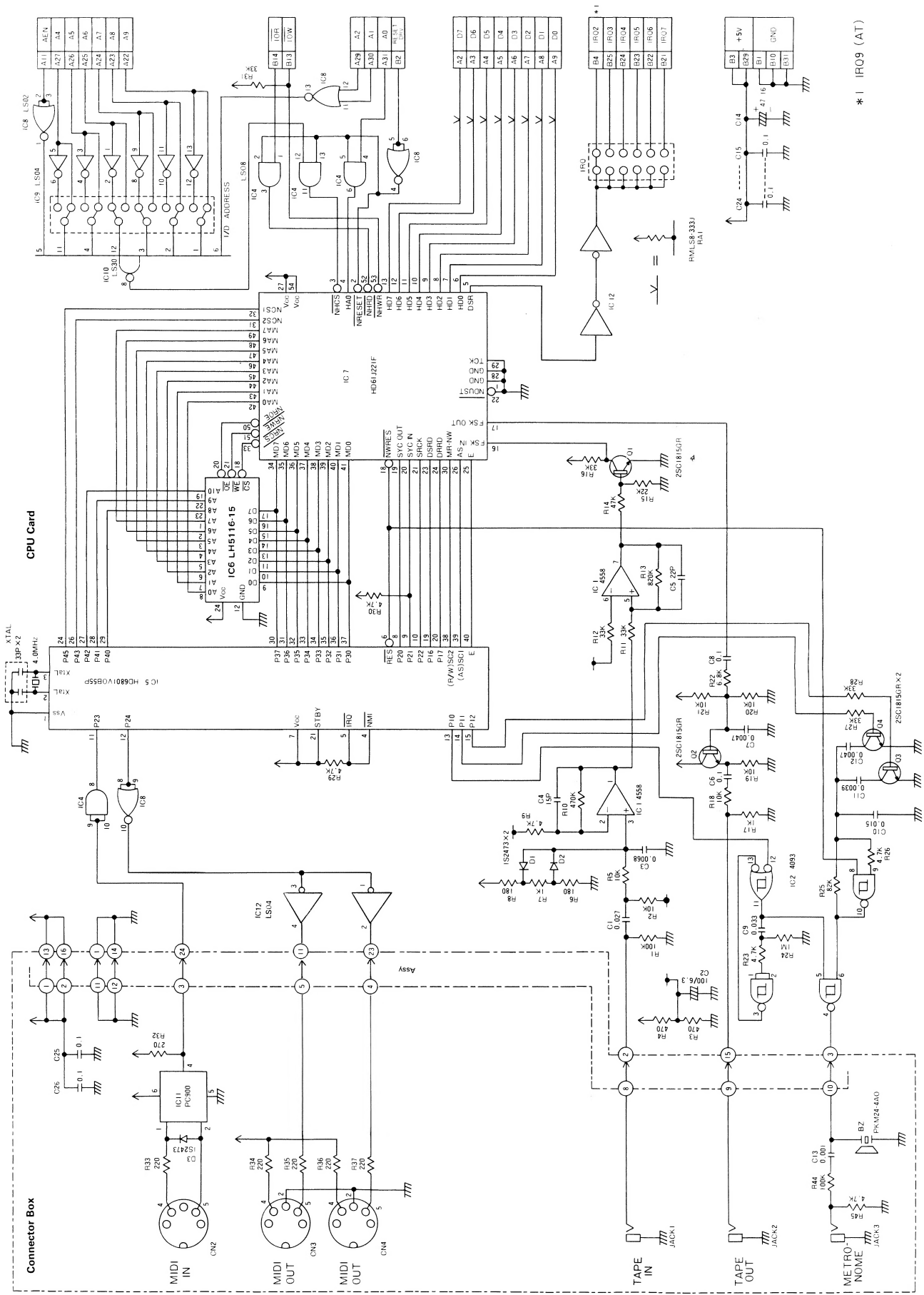
Connector Box: 165(W) × 50(D) × 31(H)mm
 6½" × 1½" × 1¼"
 CPU Card: 166(W) × 120(D) × 22(H)mm
 6⅞" × 4¾" × ⅞"

Weight:

Connector Box: 410g/14oz (including the cable)
 CPUT Card: 100g/4oz

*The specifications for this product are subject to change without prior notice, in the interest of improvement.

CIRCUIT DIAGRAM



■ Important notes

[Concerning the power supply]

- Whenever you make any connections with other devices, always turn off the power to all equipment first. This will help in preventing malfunction, and damage to speakers.

[Concerning placement]

- Avoid using or storing the unit in the following places, as damage could result.
 - Places subject to extremes in temperature. (Such as under direct sunlight, near heating units, above equipment generating heat, etc.)
 - Places near water and moisture. (Baths, washrooms, wet floors, etc.) Places otherwise subject to high humidity.
 - Dusty environments.
 - Places where high levels of vibration are produced.
- Placing the unit near power amplifiers or other equipment containing large transformers may induce hum.
- Should the unit be operated nearby television or radio receives, TV pictures may show signs of interference, and static might be heard on radios. In such cases, move the unit out of proximity with such devices.

[Maintenance]

- For everyday cleaning, wipe the unit with a soft dry cloth, or one that is dampened slightly. To remove dirt that is more stubborn, wipe using a mild, neutral detergent. Afterwards, make sure to wipe thoroughly with a soft cloth.
- Never apply benzene, thinners, alcohol or any like agents, to avoid the risk of discoloration and deformation.

[Other Precautions]

- Protect the unit from strong impact.
- Avoid getting any foreign objects (coins, wire, etc.), or liquids (water, drinks, etc.) into the unit.
- At any time that you notice a malfunction, or otherwise suspect there is damage, immediately refrain from using the unit. Then contact the store where bought, or the nearest Roland Service Station.

For West Germany

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

Roland MIDI Processing Unit MPU-IPC-T

(Gerät. Typ. Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

Amtsbl. Vfg 1046/1984

(Amtsblattverfügung)

funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Roland Corporation Osaka/Japan

Name des Herstellers/Importeurs

For the USA

RADIO AND TELEVISION INTERFERENCE

WARNING — This equipment has been verified to comply with the limits for a Class B computing device, pursuant to Subpart J, of Part 15, of FCC rules. Operation with non-certified or non-verified equipment is likely to result in interference to radio and TV reception.

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly, that is, in strict accordance with our instructions, it may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J, of Part 15, of FCC Rules. These rules are designed to provide reasonable protection against such a interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by the following measure:

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable. These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.

If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures.

- Turn the TV or radio antenna until the interference stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV. If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:

"How to Identify and Resolve Radio — TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

For Canada

CLASS B

NOTICE

This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the Radio Interference Regulations of the Canadian Department of Communications.

CLASSE B

AVIS

Cet appareil numérique ne dépasse pas les limites de la classe B au niveau des émissions de bruits radioélectriques fixés dans le Règlement des signaux parasites par le ministère canadien des Communications.

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